

TWO NEW SPECIES OF *DICHELACERA* (*NOTHOCANTHOCERA*)
FAIRCHILD WITH A KEY TO THE SPECIES OF THE
SUBGENUS (DIPTERA: TABANIDAE)^{1,2}

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Abstract.—Two new species of the subgenus *Nothocanthocera* are described and figured: *Dichelacera* (*N.*) **adusta** from Brazil, Minas Gerais, and *D. (N.) flavicosta* from Venezuela, Bolivar. A key to the females of all 12 species is presented, and figures of all species showing a wing pattern are included. Additional criteria for characterizing *Nothocanthocera* are given. *Dichelacera (N.) leucotibialis* (Barretto) is a new synonym of *D. (N.) diaphorina* (Barretto).

The subgenus *Nothocanthocera* of the genus *Dichelacera* is a widely distributed Neotropical group, most members of which are found east of the Andes, with one isolated species, *costaricana* (Fairchild), from Central America. The subgenus was erected by Fairchild (1969) to accommodate 11 Neotropical species, most of which were previously placed in the genus *Acanthocera*. Fairchild felt these species were more closely allied to *Dichelacera* than *Acanthocera* yet subgenerically distinct from the other *Dichelacera* species (Fairchild, 1939; Barretto, 1947).

Nothocanthocera have a bare and somewhat inflated frontoclypeus, a dorsal antennal tooth which does not reach the end of the basal plate, contrastingly pale tibial bases, and a pollinose subcallus. They are usually wasp-like in appearance with the first two abdominal segments slightly constricted, often with golden-yellow hair patches on the pleura, sides of the mesonotum, scutellum, and along the posterior borders of some abdominal segments. In addition, they generally have a dark infuscation along the entire anterior half of the wing.

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Nothocanthocera differs from other *Dichelacera* subgenera by lacking a strong diagonal wing band (indistinctly present only in *D. (N.) tenuicornis* (Lutz)), by having only a partially sclerotized labella, and by their wasplike appearance. *Nothocanthocera* does have in common with other *Dichelacera*, *s.l.*, a first antennal segment which is usually much shorter than the basal plate and annuli which are sometimes slightly longer, but more commonly shorter, than the basal plate.

Acanthocera species, which also resemble wasps, seem to be closely related to *Nothocanthocera*. They are separable on antennal characters. *Acanthocera* has annuli which are much wider, when viewed from above, than the first two antennal segments or the basal plate, while the annuli of *Nothocanthocera* are not wider than the other antennal parts. In addition, the annuli are 1.5–2.5 times longer than the basal plate, those of *Nothocanthocera* 1.1 or less. Usually *Acanthocera* has the first antennal segment at least as long as the basal plate; the first segment is usually much shorter in *Nothocanthocera*.

Three species presented in the key, *nigricorpus* (Lutz), *cnephosa* (Barretto), and *steleiothorax* (Barretto), are known to me only from their original descriptions, the last described from a male. Wing photos of the above two Barretto species are reproduced here from his treatment (Barretto, 1947).

Dichelacera (N.) leucotibialis (Barretto) was described from a male for which there was no associated female. The wing pattern of *leucotibialis* (Barretto, 1947, fig. 16) is identical to that of *diaphorina* (Barretto) (Fig. 7; Barretto, 1947, fig. 13); in addition I find no appreciable non-sexual differences between the description of *leucotibialis* and the specimen of *diaphorina* before me. I therefore place *leucotibialis* as a synonym of *diaphorina* (NEW SYNONYMY). Both names were published simultaneously, but *diaphorina* is preferable since it was described from a female.

KEY TO FEMALES OF *DICHELACERA (NOTHOCANTHOCERA)* SPECIES

1. Wing nearly evenly infuscated yellow or brown, without contrasting pattern 2
- Wing with contrasting yellow or brown and hyaline areas 3
- 2(1). Hindtibia mostly black, whitish and white haired at base only. Palp, sides of posterior mesonotum, and 2nd abdominal segment with a few reddish hairs intermixed with the black. Lateral posterior margins of abdominal segments pale with fine, shiny, white hairs. About 15 mm long. Wing infuscated yellow (Brazil: Santa Catarina, São Paulo, Rio de Janeiro) ... *nigricorpus* (Lutz)
- Hindtibia mostly pale yellow and yellow haired, apical ¼ dark. Palp brown haired. Posterior ⅔ of mesonotum and scutellum

- mostly golden-yellow haired. Abdomen wholly brown haired. About 10 mm long. Wing evenly brown infuscated (Guyana) *melanoptera* (Hine)
- 3(1). Wing darkly infuscated except for hyaline triangular patches occupying $\frac{1}{2}$ – $\frac{3}{4}$ of basal cells and narrow posterior hyaline border beginning in 2nd submarginal cell and extending at least to axillary cell (Figs. 3, 4) 4
- Wing not as above, variable but usually hyaline with at least a broad yellow or dark anterior margin (Figs. 5–12) 5
- 4(3). Dorsal antennal tooth subequal to 2nd antennal segment. Terminal annulus about as long as wide. Basal cells hyaline except for their apices, lightly infuscated median area in 1st basal cell and small infuscated area at base of 2nd. About 10 mm long. Frontal index about 2.3 (Fig. 3) (Venezuela, Colombia) *trigonifera* (Schiner)
- Dorsal antennal tooth 1.5–2.0× longer than 2nd antennal segment. Terminal annulus longer than wide. Hyaline areas of basal cells restricted to $\frac{1}{4}$ of 1st basal cell and contiguous anterior $\frac{1}{3}$ of 2nd. 12–15 mm long. Frontal index 2.8–3.4 (Fig. 4) (Colombia: Chocó) *albomarginata* (Kröber)
- 5(3). Wing tricolored, the following cells yellow: Costal, subcostal, marginal, basal $\frac{1}{2}$ of 1st submarginal, 1st basal, and basal $\frac{1}{2}$ of anal. Vein R_5 to fork and vein R_1 broadly margined dark brown. Apical $\frac{1}{2}$ of anal cell infuscated brown except for a hyaline center. Remainder of wing hyaline or lightly brown tinted (Figs. 2A–C, 5) (Venezuela: Bolívar) *flavicosta*, new species
- Wing not as above, bicolored, usually with broad dark anterior margin and broad hyaline or lightly infuscated posterior margin 6
- 6(5). Wing with oblique lightly infuscated mark extending from near apex of anal cell, across bases of the 5th and 4th posterior cells and through discal cell where it joins dark anterior margin of wing in 1st posterior cell. Posterior $\frac{1}{2}$ of scutellum and hindborders of abdominal terga 2–4 golden-yellow haired. Remaining terga dark brown haired (Fig. 6) (Brazil: São Paulo, Minas Gerais, Santa Catarina) *tenuicornis* (Lutz)
- Wing without an oblique infuscated mark. Scutellum and abdomen often marked as above but posterior border of tergum 4 not golden-yellow haired 7
- 7(6). Discal cell infuscated (Fig. 11) (Brazil: Paraná) *steleiothorax* (Barretto)
- Discal cell with at least a hyaline center 8

- 8(7). Wholly brown and brown haired, without golden-yellow hairs (Figs. 1A–C, 8) (Brazil: Minas Gerais) *adusta*, new species
 – Yellow hairs present in at least 1 of the following locations: On longitudinal sutures, scutellum, on notopleural lobe, below wing base, and on posterior margins of abdominal segments 2 and 3 9
- 9(8). Anterior wing infuscation does not include base of 1st posterior cell. Remainder of wing, except anal cell, hyaline. Thorax blackish with pale pollinose and yellow pilose scutellum, notopleural lobe, and paired anterior dorsal stripes. Abdomen shiny black, only 1st segment pale pilose. Halter creamy white (Fig. 9) (Honduras; Costa Rica) *costaricana* (Fairchild)
 – Wing similar to above but with base of 1st posterior cell infuscated, and area along posterior margin from 2nd submarginal to 5th posterior cell lightly infuscated. Abdomen with at least 2nd segment with a fringe of pale pilosity laterally. Halter brown 10
- 10(9). Notopleural lobe with tuft of yellow hair (Fig. 10) (Brazil: São Paulo) *apicalis* (Fairchild)
 – Notopleural lobe brown haired 11
- 11(10). Wing with 1st posterior cell nearly wholly darkened except for thin line along posterior margin. Dorsal antennal tooth recurved, nearly reaching 1st annulus. Space between tooth and basal plate about $\frac{3}{4}$ width of basal plate (Fig. 12) (Brazil: Rio de Janeiro) *cnephosa* (Barretto)
 – Wing with basal $\frac{1}{2}$ of 1st posterior cell darkened, contrasting with paler apical $\frac{1}{2}$. Dorsal antennal tooth more or less straight, basal plate $\frac{1}{3}$ again as long as tooth. Space between tooth and basal plate equal to about $\frac{1}{2}$ width of basal plate (Fig. 7) (Brazil: São Paulo, Rio de Janeiro) *diaphorina* (Barretto)

Dichelacera (*Nothocanthocera*) *flavicosta* Wilkerson, NEW SPECIES

Figs. 2A–C, 5

Medium-sized, dark-brown species with bare shiny frontoclypeus, long, slender, dorsal antennal tooth, and basally swollen subshiny palp. Wing tricolored, broadly yellow along costal margin, broadly dark brown along vein R_5 to fork, along vein R_1 , and apical $\frac{1}{2}$ of anal cell, remainder hyaline.

Female.—Length, 14 mm; of wing, 14 mm. Head characters as figured. Frontal index 2.9. Frons reddish black in ground color, dark yellowish-gray pollinose. Frons, thorax, and upper abdomen slightly greased. Basal callus protuberant, shiny reddish black. Median callus subshiny reddish black, borne on central elevated area leading from just above callus to below the

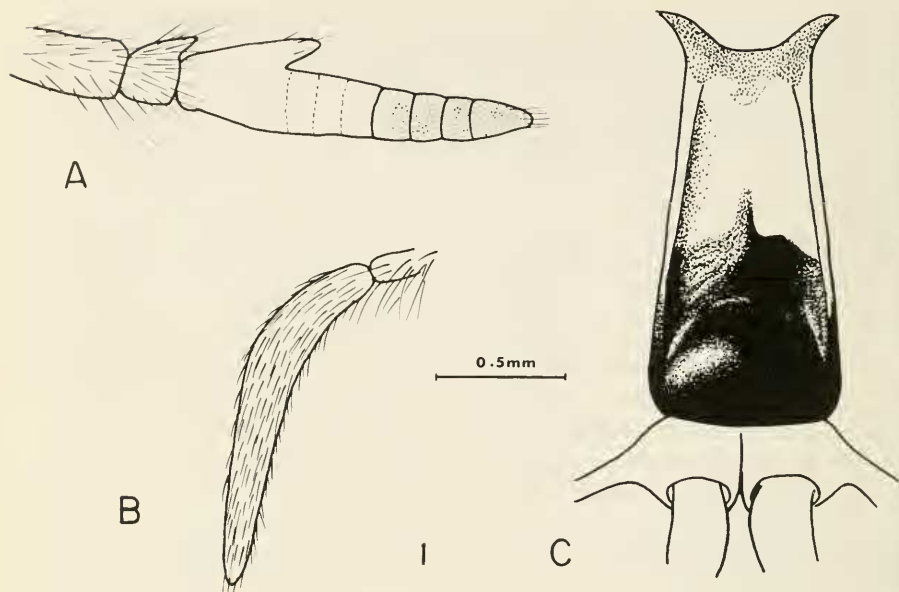


Fig. 1. *Dichelacera (Nothocanthocera) adusta*, holotype. A, Antenna. B, Palp. C, Frons.

barely visible ocellar vestiges. Subcallus and gena reddish black in ground color, yellowish-gray pollinose. Beard and hairs of upper gena sparse and dark brown. Frontoclypeus protuberant, mostly shiny dark reddish brown but yellowish-gray pollinose below level of tentorial pits. Antennal segments 1 and 2 dark brown and black haired with sparse grayish pollinosity. Segment 3 black with base, dorsal tooth, and small rings at each annulus yellowish. Third segment sparsely grayish pollinose and black haired. Palpus subshiny dark reddish brown and black haired, covered with sparse grayish pollinosity. Labella with dorsolateral shiny sclerotized stripes.

Mesonotum reddish brown with sparse grayish pollinosity and sparse black hairs. Scutellum dark reddish in ground color, mostly black haired with a few yellowish hairs intermixed. Pleura and coxae dark brown in ground color, pale grayish pollinose and dark brown haired. Legs dark reddish brown and black haired except for basal $\frac{3}{4}$, $\frac{2}{3}$, and $\frac{1}{2}$ of fore-, mid-, and hindtibiae, respectively, which are yellowish white and yellowish-white haired. Wing as figured, costal, subcostal, marginal, basal $\frac{1}{2}$ of 1st submarginal, 1st basal, and basal $\frac{1}{2}$ of anal cells yellow, veins R_1 and R_5 broadly brown margined, apical $\frac{1}{2}$ of anal cell brown, remainder of wing hyaline. Basicosta bare. Halter pale yellowish brown.

Abdomen above dark brown in ground color and black haired except for posterior borders of terga 1 and 2 which are yellowish brown and sparsely

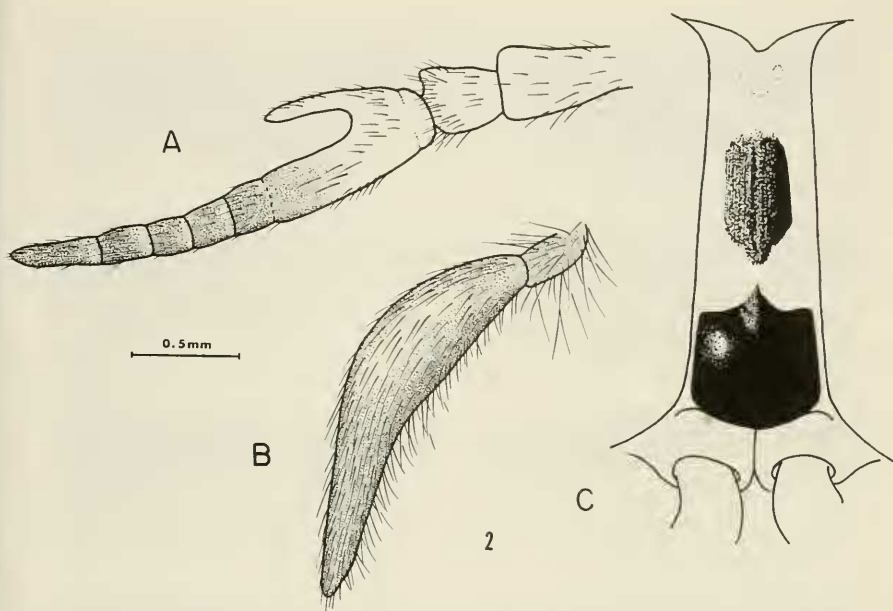


Fig. 2. *Dichelacera (Nothocanthocera) flavicosta*, holotype. A, Antenna. B, Palp. C, Frons.

yellow haired. Pale margin of segment 2 much narrower than that of segment 1. Segments 1 and 2 constricted, slightly narrower than following segments. Tergum 1 appears slightly paler than other terga due to sparse grayish-yellow pollinosity and lateral pale yellow hairs. Abdomen below as above but only sternum 2 with yellowish and yellow haired posterior border.

Male.—Not known.

Type material.—Holotype, ♀, Venezuela, Bolivar, Sta. Elena, 10–11-IX-1977, leg. Lindemann. In Zoologische Staatsammlung, Munich, West Germany.

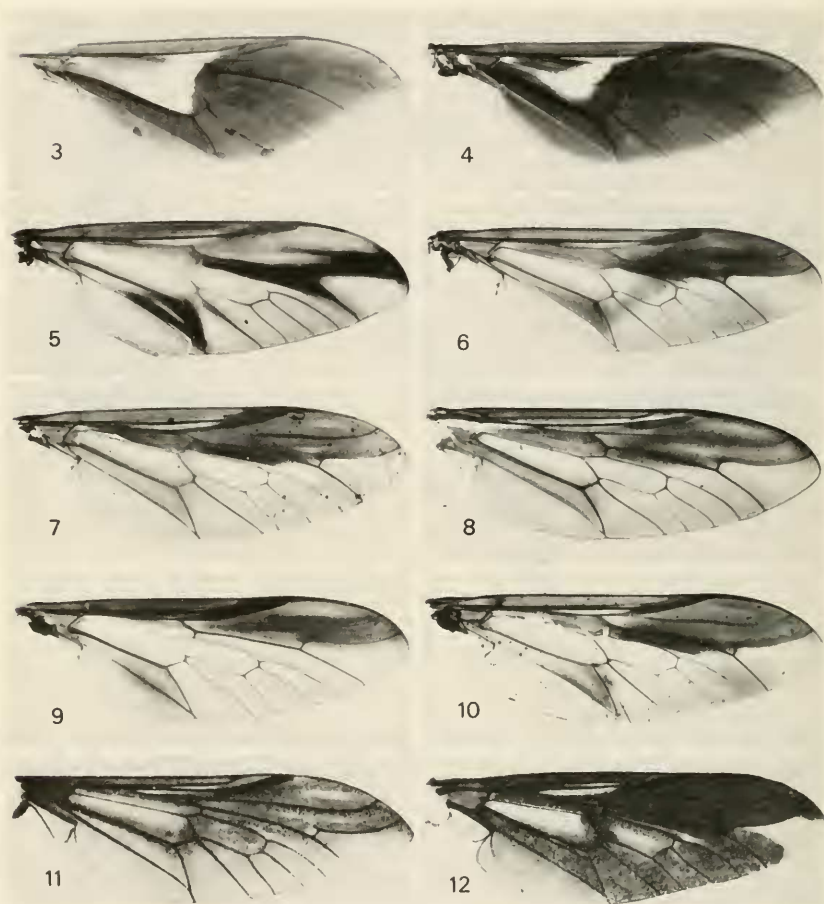
Discussion.—This species, as the name suggests, may be separated from the other members of this group by the broad yellow coloration along the costal margin of the wing.

Dichelacera (Nothocanthocera) adusta Wilkerson, NEW SPECIES

Figs. 1A–C, 8

Small to medium sized, all brown and brown haired species with short dorsal antennal tooth, shiny frontoclypeus, and slender palp.

Female.—Length, 9 mm; of wing, 9.5 mm. Head structures as figured. Frontal index 2.2. Frons pale yellowish brown pollinose. Callus shiny yellowish brown, basal $\frac{1}{2}$ protuberant, upper $\frac{1}{2}$ sunken in, borne on median



Figs. 3-12. Wings. 3, *Dichelacera* (*Nothocanthocera*) *trigonifera*. 4, *D. (N.) albomarginata*. 5, *D. (N.) flavicosta*. 6, *D. (N.) tenuicornis*. 7, *D. (N.) diaphorina*. 8, *D. (N.) adusta*. 9, *D. (N.) costaricana*. 10, *D. (N.) apicalis*. 11, *D. (N.) steleiothorax*. 12, *D. (N.) cnephosa*.

concave portion of frons. Three barely visible vestiges of ocelli present near vertex, area around and above these subshiny yellowish brown. Subcallus and most of gena pale yellowish brown pollinose. Frontoclypeus and median thin stripe below each eye on genae shiny yellowish brown. Beard of sparse brown hairs. Antennal segments 1 and 2 pale yellowish brown and dark brown haired. Segment 3 orange yellow basally, darkening to brown on annuli. Palp brown in ground color, pale yellowish-gray pollinose and brown haired. Labella nearly $\frac{1}{2}$ total proboscis length, wholly fleshy except for small lateral shiny areas.

Mesonotum reddish brown in ground color, covered with pale yellowish-brown pollinosity and brown hairs. Scutellum darker than mesonotum with coppery-yellow pollinosity and dense brown hairs. Pleura and coxae as mesonotum. Femora and apices of tibiae paler reddish brown and brown haired. Basal halves of tibiae yellowish white with a few whitish hairs intermixed with brown. Tarsi dusky. Wing as figured, broadly infuscated brown anteriorly, but paler in anal cell and through posterior cells, remainder hyaline. Basicosta bare, halter reddish brown. Abdomen above and below wholly reddish brown and brown haired.

Male.—Not known.

Type material.—Holotype, ♀, Brazil, Minas Gerais, Cipo, 20-XI-1938, A. Vianna Martins coll. Holotype to be deposited in Museu de Zoologia da Universidade de São Paulo.

The holotype is damaged, lacking the left antennal flagellum, the left fore-femur, foretibia, and foretarsus, the right midtarsus, half of one hindtibia, and both hindtarsi. In addition, the thorax is somewhat compressed dorsolaterally, and the insect has been stabilized on the pin with glue.

Paratype, same data as holotype, in the Florida State Collection of Arthropods. This specimen is somewhat larger, 11.5 mm long, and darker than the holotype. It is also damaged, the body being mostly denuded, it lacks the mid- and hindlegs of the left side, and the wings are both dirty and torn. The mid- and hindtibiae of this specimen are mostly pale, their apical fourths darkened.

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